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A STATION FOR *CROTON GLANDULOSUS* IN NEW JERSEY.

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SOME years ago, during an examination of the private herbarium of Mr. W. H. Roper of Atco, New Jersey, I came unexpectedly upon local material of *Croton glandulosus* L.¹ Mr. Roper was quite familiar with the plant and informed me that it occurred along the railroad above Bishops Bridge—a flag-stop near Atco. This spot is along the steam line of the Pennsylvania Railroad to Atlantic City, about twenty miles out of Camden.

Croton glandulosus is a tropical American species of sandy soils, extending northward in the Mississippi valley to Iowa and through the southeastern states to Virginia. In the northeastern United States it is best known historically, as one of the ballast-ground plants formerly found about certain of the Atlantic seaports. In Aubrey H. Smith's paper on "On Colonies of Plants Observed near Philadelphia,"² published in 1867, it is reported to have occurred below the Navy Yard from 1864 to 1866, being "more abundant in the last of these years"—which is amply borne out by numerous specimens dated 1866 contained in various herbaria. There are collections from Kaighn's Point, Camden, New Jersey, opposite Philadelphia, made in the same year, as well as in 1865. It was obtained in 1866 at Newcastle, Delaware, not very far below Philadelphia. A single plant only, however, was noted, according to the label-data with the extant material in the Commons Herbarium, and there is no evidence that the species occurred there subsequently.

¹ The northern, widely distributed phase of this very variable species known as *C. glandulosus* var. *septentrionalis* Muell. Arg.

² Smith, Proc. Acad. Nat. Sci. Phila. xix. 22 (1867).

The last collection appears to have been in 1879 from the ballast-grounds at Philadelphia. It is not possible to say whether the plants collected in the later years of this period were descendants of the first colonists, but it seems unlikely. Comparatively few of these ballast plants persisted, and collections of a species over a lengthy period frequently seem to represent repeated cases of colonization. There were periods of renewed interest in the ballast-grounds during more recent years, particularly in the late 90's, but the species was not found at this time.

Mr. Roper's collection near Bishops Bridge show that it occurred there as early as 1913. Because of my interest expressed in the plant he visited the station again in 1918 and reported it in some abundance, fruiting copiously, and evidently increasing. When, on October 5 of the past year, my long deferred visit was made, I was amply repaid by the sight of many hundreds of vigorous plants.

The railroad at this spot extends across a low depression and has been laid upon a stone-and-cinder fill. On the long, sloping railroad bank the croton has found a favorable habitat, with numerous other weeds that like loose cinder railroad-ballast. For more than a hundred feet along this slope the croton is the most conspicuous, if not the dominant species. At the foot of the slope, among the weeds of ranker growth and the native vegetation encroaching from the low ground, the plants were tall and slender, some approaching two feet in height; while at the crest of the bank those growing in the dry, sun-baked cinders, having had little growth-competition, were stout little "bushes" about a foot tall. At the time of my visit the somewhat shaded plants were still fresh and green; those in the open were in greater maturity and made really very handsome foliage-plants with their drooping, primary leaves turning a rich salmon color. All were fruiting profusely and apparently prepared to continue flowering and fruiting indefinitely. Probably only killing frosts terminate its growing season in this latitude. The railroad company's scythe that makes periodical raids upon the vegetation along the tracks seems not to have discouraged the plant. Those individuals that were cut down appeared to have suffered only a judicious pruning, resultant in a greater branching and increased fruiting.

The presence of considerable paper and rubbish along the railroad bank suggests that car-sweepings may be dropped here. This is

undoubtedly a fertile source of introduction of many railroad weeds. And possibly this colony of *Croton glandulosus* may have originated in such manner.

Although the plant was not detected at any other station along the railroad, the vigorous manner in which the species is establishing itself at this spot leaves no doubt in the mind that it is only a question of time when it will have extended further along the railroad, or even out into the adjacent sand-barrens.

It is said to be a weed in portions of its range, and like many crotons and allied species of the spurge family, to have an especial fondness for railroads. At least one of its stations in Virginia, the state usually given as the northern limit of the species, is "along the railroad between Lynchburg and Danville" and probably other occurrences on the outer edge of its range are of a similar character. It would thus appear that the plant at Bishops Bridge has found a very congenial habitat and it would not be surprising if what is now such an unfamiliar species to local collectors should ultimately become a familiar member of the New Jersey flora.

ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA.

THE GRAY HERBARIUM EXPEDITION TO NOVA SCOTIA,
1920.

M. L. FERNALD.

(Continued from p. 195.)

PANICUM LINDHEIMERI Nash. As already noted (p. 141) there is no constant character by which to distinguish from *P. Lindheimeri* the several plants subsequently published as species and separated by Hitchcock & Chase upon the minutest differences in size of spikelets and varying degrees of pubescence on the foliage. These plants, *P. tennesseense* Ashe, *P. huachucae* Ashe, and *P. implicatum* Scribner, have for a quarter-century baffled those who, not restricting their studies to the grasses, are in the habit of looking in other plants for essentially constant characters in species and who have long since learned that in other groups at least, fluctuating degrees of the same type of pubescence when unaccompanied by definite characters of the inflorescence give very unsatisfactory grounds for specific separa-